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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/026,947	12/27/2001	Kimihide Tokura	P 290571 T7KK-01S0454-1	7332
909	7590	07/28/2004	EXAMINER CAO, ALLEN T	
PILLSBURY WINTHROP, LLP P.O. BOX 10500 MCLEAN, VA 22102			ART UNIT 2652	
			PAPER NUMBER	

DATE MAILED: 07/28/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/026,947	Applicant(s) TOKURA ET AL.	
	Examiner Allen T Cao	Art Unit 2652	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>4/7/2003</u> . | 6) <input type="checkbox"/> Other: ____ |

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1. Applicant is reminded of the proper language and format for an abstract of the disclosure.

1. The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

The abstract contains less than 50 words.

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-7, 9-15 and 17-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zhang et al (US. 6,278,584 B1) in view of Cameron (US. 5,973,887).

Zhang et al disclose a ramp 238 for a magnetic read/write apparatus shunt a magnetic read/write head (126, 150) to the outside of magnetic recording medium 134 in non-read/write period, a suspension assembly (123, 124), the ramp 238 containing mainly at least one molding polymer and an inorganic filler 300 used as an additive as set forth in claims 1 and 9.

Regarding claims 4 and 12, Zhang et al disclose that the ramp according claim subjected magnetic read/write apparatus wherein said inorganic filler a surface treatment with a titanium-based coupling agent (TiO_2).

Regarding claims 5 and 13, Zhang et al disclose that the inorganic filler surface treatment with an antistatic agent (column 6, lines 25-32).

Regarding claims 6 and 14, Zhang et al disclose that the inorganic filler has an average particle diameter falling within the range $0.1\ \mu\text{m}$ to $100\ \mu\text{m}$ (column 5, lines 62-67).

Regarding claims 7 and 15, Zhang et al disclose that the inorganic filler formed of at least one material selected from group consisting of TiO_2 .

Zhang et al, however, do not clearly disclose that the ramp mainly is made of a molding resin selected from a thermoplastic resin and a thermosetting resin as recited in claims 1 and 9. Zhang et al only disclose that the ramp mainly is made of molding polymer.

Cameron discloses a ramp that is made of a molding plastic resin (column 7, lines 3-8).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to manufacture the ramp of Zhang et al mainly with a molding plastic resin as taught by Cameron (note that most of the molding plastic resin is thermoplastic resin).

The rationale is as follows: One of ordinary skill in the art would have been motivated to make the ramp of Zhang et al mainly with a molding plastic resin as taught

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by Cameron to improve the soft characteristics of the ramp in order to prevent the mechanical locks between the head and the ramp, thus improve head protection surfaces. Additionally, it has been held to be within the general skill of a worker in the art to select a known material having different chemical bonding structures on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 416 (CCPA 1960).

Regarding claims 2-3 and 10-11, Zhang et al only disclose that the volume of the inorganic filler is equal to about 8.7% of the volume of the polymer resin (column 5, lines 62-67). However, Zhang et al do not disclose that the inorganic fillers is not higher than 4% by weight (claims 2 and 10) or within a range of between 0.05 and 4% by weight based on the molding resin (claims 3 and 11).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the ramp of Zhang et al that the inorganic fillers is not higher than 4% by weight (claims 2 and 10) or within a range of between 0.05 and 4% by weight based on the molding resin (claims 3 and 11).

The rationale is as follows: One of ordinary skill in the art would have been motivated to modify the ramp of Zhang et al that the inorganic fillers is not higher than 4% by weight (claims 2 and 10) or within a range of between 0.05 and 4% by weight based on the molding resin (claims 3 and 11) through routine lab experimentation and optimization in order to reduce static, friction, minimize wear and debris generation.

Regarding claims 17 and 18, Zhang et al disclose the change resistance between the suspension/arm and the ramp by introducing inorganic fillers. However,

Zhang et al do not clearly state that the width of change in the sliding resistance value between the head and the ramp falls within the range of 1.8 gfcM to 2.6 gfcM (claim 17) or the load applied to the suspension assembly falls within the range of 1.5 gf to 3.5 gf (claim 18).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to indicate that the the width of change in the sliding resistance value between the head and the ramp falls within the range of 1.8 gfcM to 2.6 gfcM (claim 17) or the load applied to the suspension assembly falls within the range of 1.5 gf to 3.5 gf (claim 18) through routine lab experimentation to improve the friction characteristics between the head/suspension and the ramp by analyzing the load in order to reduce static, friction, minimize wear and debris generation.

4. Claims 8 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zhang et al as modified by Cameron and further in view of Yamamoto et al (US. 6,151,190).

Zhang et al as modified by Cameron do not disclose that the molding resin consists essentially of polyacetal as recited in claims 8 and 16.

Yamamoto et al disclose a loading ramp 91 of a disk drive is made of molded polyacetal resin (see claim 30).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to manufacture the ramp of Zhang et al as modified by Cameron with a molded polyacetal resin as taught by Yamamoto et al to improve the friction

characteristics between the head/suspension and the ramp by analyzing the load in order to reduce static, friction, minimize wear and debris generation. Additionally, it has been held to be within the general skill of a worker in the art to select a known material having different chemical bonding structures on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 416 (CCPA 1960).

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Aoyagi et al (US. 6,181,529 B1) and Japan (2003-346443).

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Allen T Cao whose telephone number is (703) 305-3796. The examiner can normally be reached on Mon - Thurs (7:30 - 6:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hoa T Nguyen can be reached on (703) 305-9687. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Allen Cao
Primary Examiner

AC
July 14, 2004